

application sheet
RAKO CONTROLS
 WIRED RAK OVERVIEW

Introduction

When installing a wired system dimmers are typically housed in RAK boxes with 8 modular cards (RAK8).

These are typically mounted to form "stacks" of up to 32 channels. Each stack is connected to a RAK-Link which acts as the main connection point of the wired system.

RAK8

Utilising plug in cards the RAK8 has 8 slots each of which can be filled with one of the following control modules:

WMT-400 - Trailing edge mains dimmable

WMS-600 - Switching only

WDA-600 - Digital broadcast: 0-10V, DLI, DSI

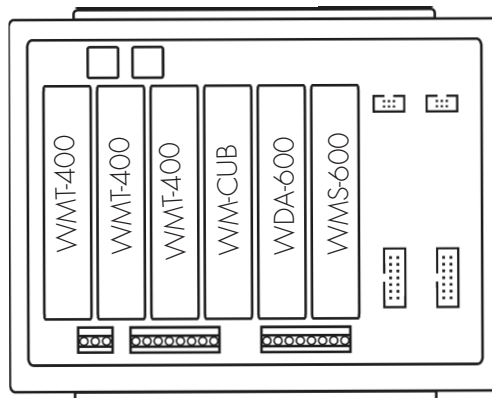
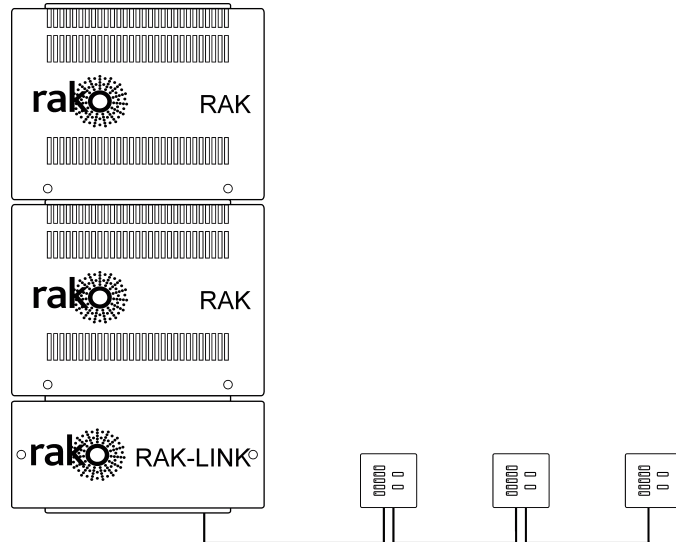
WM-CUB - Curtain and blind controller (dual relay)

RAKLINK

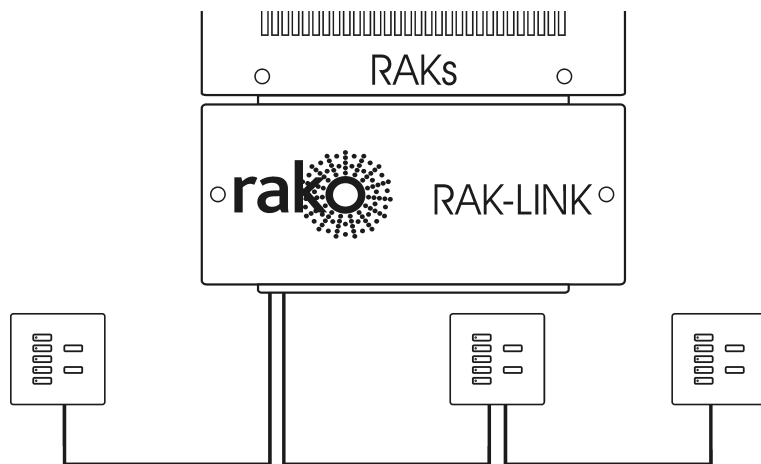
The core of the of the wired system is the RAK-Link.

Each stack of RAKs is connected by RJ45 patch cables with the RAK-Link also connected by a patch cable at one end.

The RAK-Link not only provides the link between wall-plates and RAK dimmers but also contains the power supply for the wired network.



RAK8 with 6 modules fitted

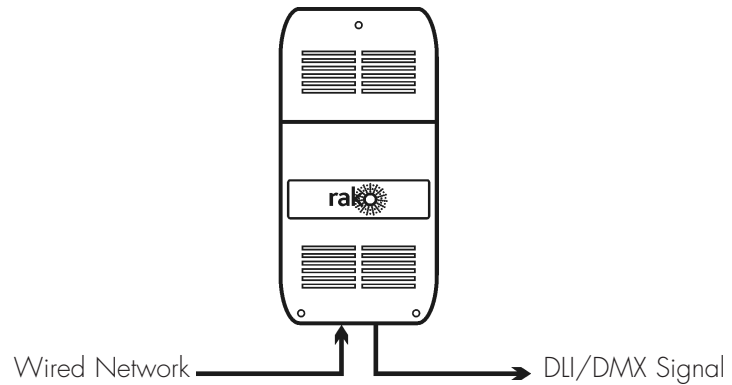




Addressable digital dimming

The Rako wired system also supports addressable digital ballasts with the WSR-DMX for DMX and WSR-DLI for digitally addressable drivers.

Both can be used to control up to 16 channels in a single room.

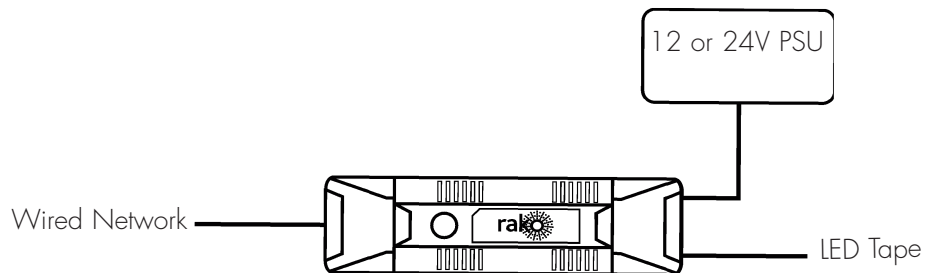


LED control

The WLEDCV range of modules allow constant voltage (CV) tape to be controlled directly from the wired network.

The WLED75CV1 and WLED150CV1 modules allow single colour control and the WLED30CV4 control of 3 or 4 colour tape.

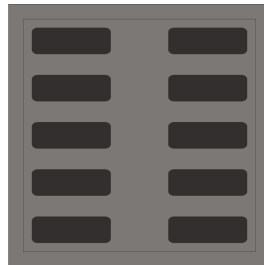
The WLEDs also need to be fed by with either a 12V or 24V power supply (depending on the type used).



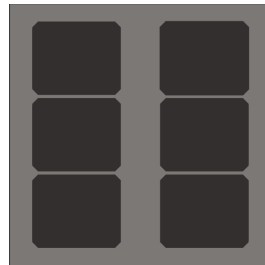
WCM / WK-EOS / WK-MOD

Wired keypads are fully programmable: each button can communicate with any room and channel within the Rako system. A button can also be programmed to talk to multiple rooms and channels with a single press.

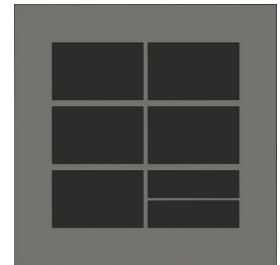
Wired buttons are backlit by LEDs with configurable LED tellback.



WCM



WK-EOS

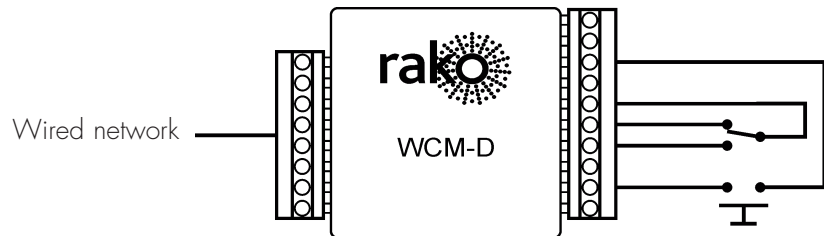


WK-MOD

Integrating with 3rd party switches

The WCM-D allows Custom & Third Party Switch Plates to be used in place of a standard Rako wired wall panels.

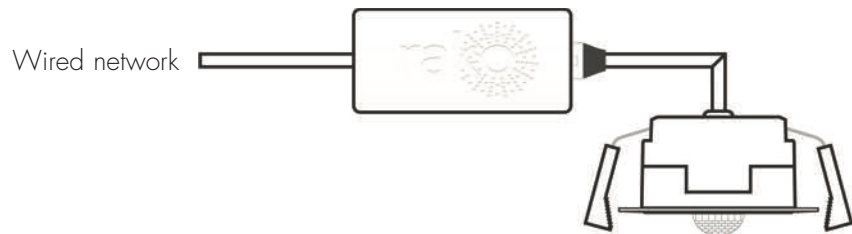
Up to eight switch inputs can be taken per WCM-D. The switch plate can be formed of Latching or Momentary Action



PIRs

Presence sensing can be achieved using the WK-PIR which directly communicates on the Rako wired network.

Extra features of the WK-PIR include light dependent triggering and time delayed auto off.

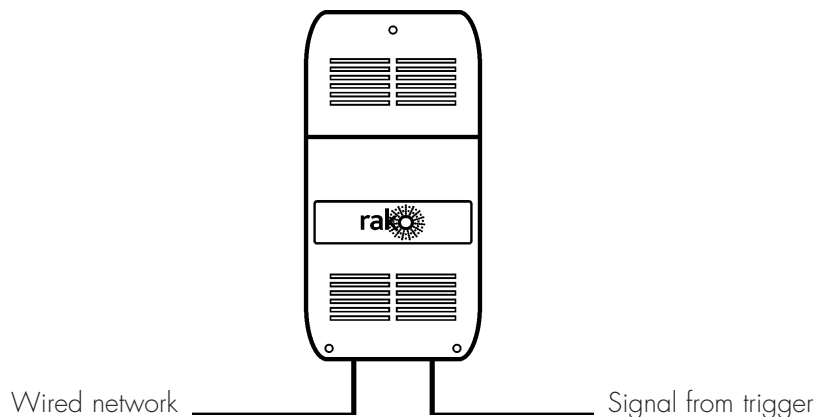


WK-CONNECT

The WK-CONNECT (ceiling mount) and WPCON (wall mount) provide easy connection to the Rako CAN network for devices with RJ11 connections when not mounted close to a RAK-Link/RAK-Star e.g. WK-PIRs

Volt free input logic unit

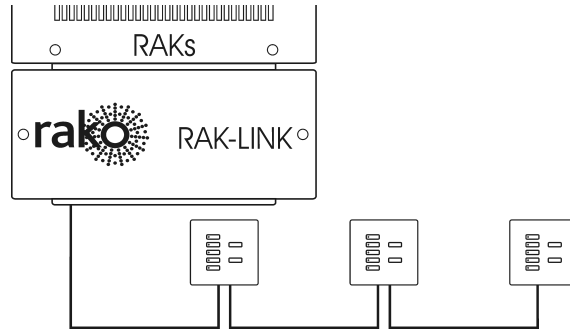
The WAVFR/WAVMI allows switches and logic levels to add additional control of a Rako Wireless system. This could include inputs from Alarm sensors and PIR modules.



**Installation Method 1:
 Daisy Chain**

The basis of the network is a single run or 'daisy chain' network connected with CAT5 data cable. Wired control panels, RAK-Link connection units and Bridge interface units are all devices connected in a single run.

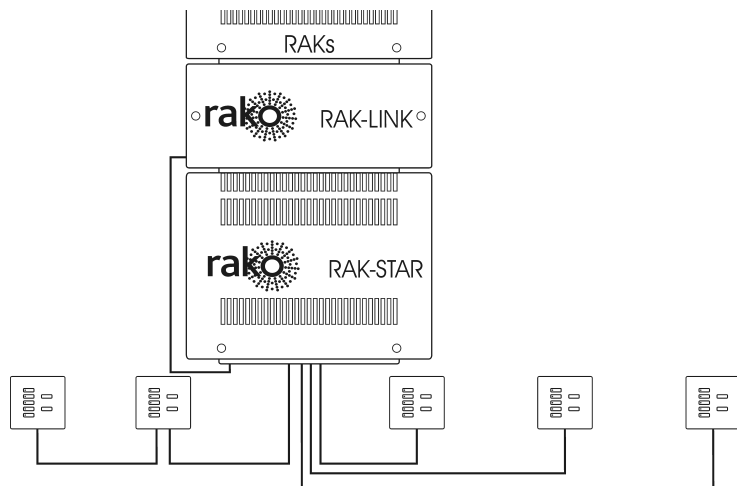
There is no set order in which the units need to be connected and RAK-Links can be at the end or middle of the network.



**Installation Method 2:
 Star Wiring**

Home run or 'star' wiring can be accommodated using the RAK-STAR giving up to 18 'star' runs. Multiple RAK-STARs can be connected for larger systems.

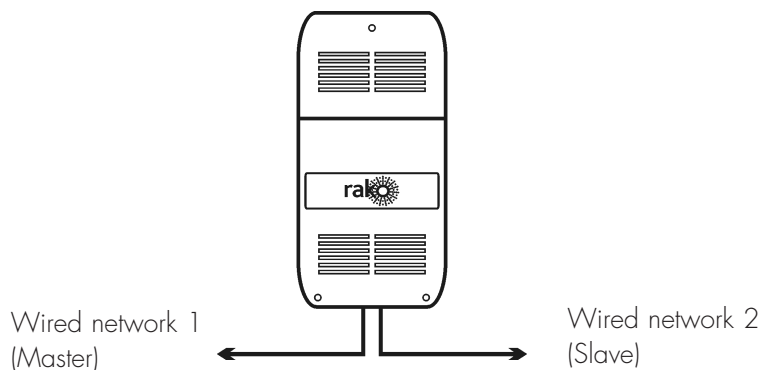
Each leg can have more than one device, creating a 'mini daisy chain'.



WA-NEX

The WA-NEX is typically used to partition RAKO systems that have exceeded the maximum cable distance of the RAKO wired network.

Once partitioned by a WA-NEX the two partitioned halves will behave exactly as a single network.



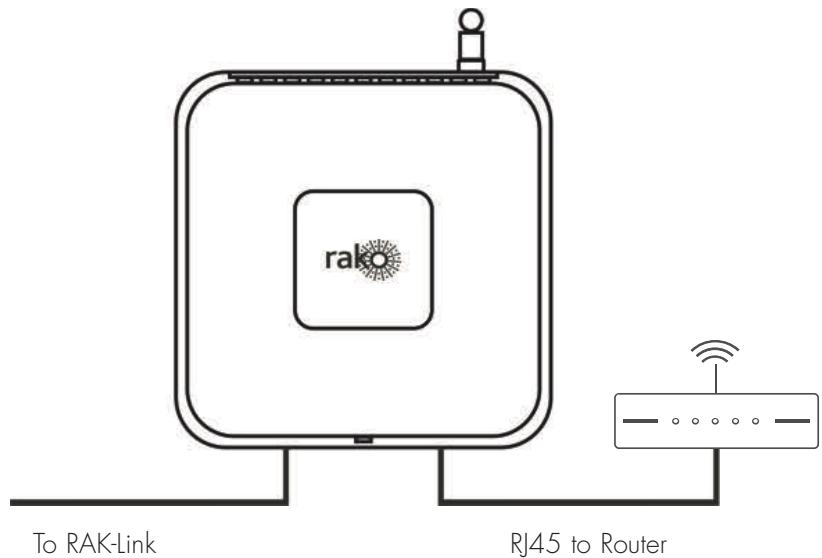
HUB

For Wired systems the WK-HUB operates as a network interface allowing control from the Rako App, Amazon Alexa, Google home, Apple homekit and other ip based systems.

It stores the Rasoft project files and allows programming from Rasoft Pro using a PC or Mac

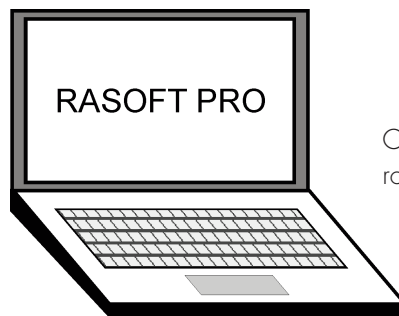
The WK-HUB also has additional functions of timed events linked to dawn/dusk, holiday mode, wired mappings and macros along with the capability of controlling Rako wireless products.

See WK-HUB datasheet for more information.



Programming

The wired system is always commissioned using the Rasoft Pro programming software interfacing via a wired HUB. A computer can be connected to the HUB via a router or point to point using an ethernet cable of any kind.



Connect to a HUB via router or ethernet cable